

=> FILE REG

FILE 'REGISTRY' ENTERED AT 12:50:42 ON 24 JUL 2008

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=> DISPLAY HISTORY FULL L1-

FILE 'REGISTRY' ENTERED AT 12:27:30 ON 24 JUL 2008

E ZIRCONIUM OXYCHLORIDE/CN

L1 4 SEA ("ZIRCONIUM OXYCHLORIDE"/CN OR "ZIRCONIUM OXYCHLORIDE (ZROCL2)"/CN OR "ZIRCONIUM OXYCHLORIDE (ZROCL2) PENTAHYDRATE"/CN OR "ZIRCONIUM OXYCHLORIDE (ZROCL2) TETRAHYDRATE"/CN OR "ZIRCONIUM OXYCHLORIDE OCTAHYDRATE"/CN OR "ZIRCONIUM OXYCHLORIDE OCTAHYDRATE (ZROCL2.8H2O)"/CN )

E CERIUM NITRATE/CN

L2 7 SEA ("CERIUM NITRATE"/CN OR "CERIUM NITRATE (CE(NO3)3)"/CN OR "CERIUM NITRATE (CE(NO3)4)"/CN OR "CERIUM NITRATE (CE(OH)(NO3)3)"/CN OR "CERIUM NITRATE HEXAHYDRATE"/CN OR "CERIUM NITRATE HYDRATE (CE(NO3)3.XH2O)"/CN)

E HEXAMETHYLENETETRAMINE/CN

L3 1 SEA HEXAMETHYLENETETRAMINE/CN

FILE 'HCA' ENTERED AT 12:39:18 ON 24 JUL 2008

L4 5994 SEA L1 OR (ZIRCONIUM# OR ZR) (2A) (OXYCHLORIDE# OR OXY#(A)CHLORIDE#) OR ZROCL2 OR ZRCL2O

L5 5845 SEA L2 OR (CERIUM# OR CE) (A)NITRATE# OR CE(W)NO3

L6 17517 SEA L3 OR HEXAMETHYLENETETRAMINE# OR HEXAMETHYLENETETRAMINE# OR HEXAMETHYLENE# (2A) (TETRAMINE# OR TETRAAMINE#)

FILE 'REGISTRY' ENTERED AT 12:39:25 ON 24 JUL 2008

E CERIUM OXIDE/CN

L7 2 SEA "CERIUM OXIDE"/CN

L8 91 SEA (CE (L) O)/ELS (L) 2/ELC.SUB

E ZIRCONIUM/CN

L9 1 SEA ZIRCONIUM/CN

FILE 'HCA' ENTERED AT 12:45:26 ON 24 JUL 2008

L10 40443 SEA L7 OR L8 OR (CERIUM# OR CE) (W) (OXIDE# OR DIOXIDE# OR TRIOXIDE# OR TETRAOXIDE# OR TETROXIDE#) OR CEO OR CEO2 OR CE2O3 OR CEO3 OR CEO4 OR CE2O4

L11 76585 SEA L9

L12 2 SEA L4 AND L5 AND L6

L13 2 SEA L12 AND (L10 OR L11)

=> FILE HCA

FILE 'HCA' ENTERED AT 12:50:54 ON 24 JUL 2008

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=> D L12 1-2 BIB ABS HITSTR IT RE

L12 ANSWER 1 OF 2 HCA COPYRIGHT 2008 ACS on STN

AN 123:23701 HCA Full-text

OREF 123:4227a,4230a

TI Thin plate-like electrically conductive zinc oxide and its  
manufacture

IN Fujii, Hideyo; Yokoyama, Masakazu

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	JP 07069631	A	19950314	JP 1993-278224	199311 08

PRAI JP 1993-278224 A 19931108

JP 1993-159678 19930629

AB The oxide contg. 0.0001-0.3 mol Al (to Zn) and having av. thickness 0.1-2  $\mu$ m, av. particle size 1-100  $\mu$ m, and aspect ratio 3-100 is coated with 0.00005-0.05 mol (to Zn) oxides of Sb, In, Ce, Ga, Sn, Zr, and Ti. The manuf. involves mixing solns. contg. Zn and Al salts and solns. contg. hexamethylenetetramine and/or urea in hot water and hydrolizing at pH 5.5-7.5 to prep. thin plate-like basic Zn-based coppts., optionally sepg. solids from liqs. and firing the coppts. to prep. the Zn oxide, mixing with 0.00005-0.05 mol (to Zn) aq. compds. of Sb, In, Ce, Sn, Zr, and Ti to deposit on the oxide, and firing in reducing atm.

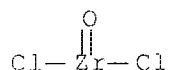
IT 7699-43-6, Zirconium oxychloride

10108-73-3, Cerous nitrate

(manuf. of thin plate-like elec. conductors contg. ZnO coated with metal oxides)

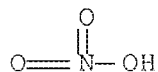
RN 7699-43-6 HCA

CN Zirconium, dichlorooxo- (CA INDEX NAME)



RN 10108-73-3 HCA

CN Nitric acid, cerium(3+) salt (3:1) (CA INDEX NAME)



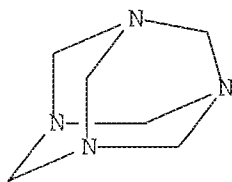
● 1/3 Ce(III)

IT 100-97-0, Hexamethylenetetramine, reactions

(manuf. of thin plate-like elec. conductors contg. ZnO coated with metal oxides)

RN 100-97-0 HCA

CN 1,3,5,7-Tetraazatricyclo[3.3.1.1<sup>3,7</sup>]decane (CA INDEX NAME)



IT Electric conductors

(manuf. of thin plate-like elec. conductors contg. ZnO coated with metal oxides)

IT 1312-43-2, Indium oxide 1314-23-4, Zirconium oxide, uses  
1327-33-9, Antimony oxide 1332-29-2, Tin oxide 11129-18-3,  
Cerium oxide 12024-21-4, Gallium oxide 13463-67-7, Titanium  
oxide, uses

(manuf. of thin plate-like elec. conductors contg. ZnO coated with metal oxides)

IT 1314-13-2, Zinc oxide, properties  
 (manuf. of thin plate-like elec. conductors contg. ZnO coated  
 with metal oxides)

IT 7646-78-8, Tin tetrachloride, processes 7699-43-6,  
**Zirconium oxychloride** 7733-02-0, Zinc sulfate  
 7772-99-8, Tin dichloride, processes 10025-91-9, Antimony  
 trichloride 10031-62-6, Tin sulfate 10043-01-3, Aluminum sulfate  
 10108-73-3, Cerous nitrate 13464-82-9, Indium sulfate  
 13494-90-1, Gallium nitrate 13693-11-3, Titanium sulfate  
 (manuf. of thin plate-like elec. conductors contg. ZnO coated  
 with metal oxides)

IT 57-13-6, Urea, reactions 100-97-0,  
**Hexamethylenetetramine**, reactions  
 (manuf. of thin plate-like elec. conductors contg. ZnO coated  
 with metal oxides)

L12 ANSWER 2 OF 2 HCA COPYRIGHT 2008 ACS on STN

AN 108:97197 HCA Full-text

OREF 108:15955a,15958a

TI Manufacture of zinc oxide-containing composite oxide powders

IN Saida, Kenji; Fujii, Hideyo

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 62275025	A	19871130	JP 1986-152576	198606 27

PRAI JP 1986-28599 A1 19860212

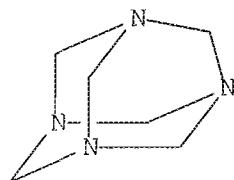
AB Composite oxides of Zn and  $\geq 1$  metal of Al, Fe, Cr, Ce, Zr, or Ti are  
 prepd. by hydrolyzing a zinc salt and the salt(s) of assocd. metal(s)  
 in alc. aq. soln. in the presence of hydrolysis precipitant (e.g.,  
 urea or **hexamethylenetetramine**) and subsequently sintering the  
 resulting ppt. The formed composite oxide is used as an UV-ray  
 shielding agent. Thus, 0.45 g  $\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$  and 362 g  $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$   
 were dissolved in 1200 mL EtOH, then the resulting soln. was mixed  
 with a soln. of 83 g **hexamethylenetetramine** in 1600 mL water. The  
 mixed soln. was heated at  $80^\circ$  under stirring to form a ppt. which was  
 removed by filtration, dried, and sintered to ZnO-Al<sub>2</sub>O<sub>3</sub> powders of  
 diam. 0.01  $\mu$ .

IT 100-97-0, uses and miscellaneous  
 (hydrolysis precipitants, in manuf. of zinc oxide-contg. composite

oxide powders for UV-ray shielding agents)

RN 100-97-0 HCA

CN 1,3,5,7-Tetraazatricyclo[3.3.1.1<sup>3,7</sup>]decane (CA INDEX NAME)



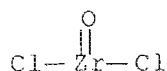
IT 7699-43-6, Zirconium oxychloride

10108-73-3, Cerium nitrate

(in zinc oxide-contg. composite oxide powder manuf.)

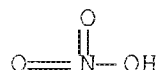
RN 7699-43-6 HCA

CN Zirconium, dichlorooxo- (CA INDEX NAME)



RN 10108-73-3 HCA

CN Nitric acid, cerium(3+) salt (3:1) (CA INDEX NAME)



● 1/3 Ce(III)

IT Oxides, preparation

(prepn. of composite, contg. zinc oxide, by copptn. of aq. soln., hydrolysis precipitants for)

IT Ultraviolet radiation

(shielding agents for, manuf. of zinc oxide-contg. oxide powder for)

IT 1306-38-3P, Ceria, uses and miscellaneous 1314-23-4P, Zirconia, preparation 1332-37-2P, Iron oxide (unspecified), preparation 1344-28-1P, Alumina, preparation 11118-57-3P, Chromium oxide (unspecified) 13463-67-7P, Titania, preparation

(composite oxide powders contg. zinc oxide and, prepn. of, hydrolysis precipitants for)

IT 1314-13-2P, Zinc oxide, preparation  
(composite oxide powders contg., manuf. of, hydrolysis precipitants for)

IT 57-13-6, Urea, uses and miscellaneous  
(hydrolysis precipitant, in manuf. of zinc oxide-contg. composite oxide powders for UV-ray shielding agents)

IT 100-97-0, uses and miscellaneous  
(hydrolysis precipitants, in manuf. of zinc oxide-contg. composite oxide powders for UV-ray shielding agents)

IT 546-68-9, Titanium isopropoxide 557-34-6, Zinc acetate  
7550-45-0, Titanium chloride, uses and miscellaneous  
**7699-43-6, Zirconium oxychloride**  
7779-88-6, Zinc nitrate 10108-73-3, Cerium  
nitrate 13473-90-0, Aluminum nitrate 13548-38-4,  
Chromium nitrate 14013-86-6, Ferrous nitrate 24670-27-7  
(in zinc oxide-contg. composite oxide powder manuf.)